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959 7590 06/25/2007 LAHIVE & COCKFIELD, LLP ONE POST OFFICE SQUARE BOSTON, MA 02109-2127			EXAMINER MITCHELL, JASON D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,487

Applicant(s)

GRACE, ANDREW

Examiner

Jason Mitchell

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-49 are pending in this application.

Claim Objections

2. **Claims 1, 9-11, 20, 41 and 43-44 are objected to because of the following informalities:**

Claims 1, 11, 20, 41, and 44, variously recite "scrolling", "providing a first focus" and "selecting a first segment" in "one of the input descriptions and the output descriptions". This language could be read to indicate the user actively providing "scrolling", "a first focus" and selection of "a first segment" in both one of the input descriptions and one of the output descriptions". It is Examiner's position that a recitation of "one of the input descriptions or the output descriptions" would be more appropriate.

Claims 9, 10 and 43 recite similar language and consequently have similar problems.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 31-40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to a "system for translating input code to output code, the system comprising: a code generator ... a markup generator ... and; a display tool for

displaying the ... code on a display". All of these could be implemented entirely in software. Accordingly the claims are rejected as being directed to software per se.

Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. ¹⁹ ~~Claims 4, 11-18, 31, and 36-40~~ ⁴⁰ are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

All the dependent claims must be included!

6. Claim 4 recites a limitation indicating “the multiple output descriptions is expressed in a different programming language than other output descriptions”. As an initial matter it is noted that the tense of the claim is incorrect and should read “the multiple output descriptions are expressed”. Second, it is unclear which output descriptions are intended by the recited “other output descriptions”. It is the Examiner's belief that Applicant intended a limitation wherein the multiple output descriptions are each expressed in a different programming language. This is the interpretation that will be used for this examination.

7. Claim 11 recites “providing a first focus” in line 5. Applicant's specification does not provide an indication of the intended meaning of such a “focus”. Those of ordinary skill in the art would not be reasonably apprized of the intended meets and bounds of this term. Accordingly the claim (and it's dependent claims 12-18) are rejected for failing to particularly point out the intended subject matter which applicant regards as the invention.

Claim 31 recites “generating input and output code markup files” in lines 4-5. Claim 32 attempts to further limit claim 31 by reciting “wherein the markup generator generates the input and output code markup files using markup programming languages”. It is the Examiner's position that those of ordinary skill in the art would not recognize what was intended by ‘input and output code markup files’ which were not generated using markup programming languages. Accordingly the precise scope of claim 31 (and it's

Art Unit: 2193

dependent claims 33-40) is unclear. For the purposes of examination, the 'markup files' of claim 31 will be treated as including any file storing meta-data regarding the input and output code.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. **Claims 1-2, 5-17, 20-21, 26-27, 29, 31 and 33-48 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,829,759 to Davis et al. (Davis).**

10. **Regarding Claims 1 and 41:** Davis discloses an electronic device running a software tool that generates output descriptions in response to input descriptions a method for tracing output descriptions generated from corresponding input descriptions (col. 6, lines 21-22 The translator 46 translates the source elements ... into translation elements”), wherein the electronic device includes a display (Fig. 3), the method comprising:

displaying the input descriptions and the output descriptions together on the display (col. 8, lines 6-8 "The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88");

scrolling one of the input descriptions and the output descriptions (col. 8, lines 14-16 "Synchronized scroll bars 92"); and

in response to scrolling one of the input descriptions and the output descriptions, scrolling the other descriptions automatically in proportion to an amount of scrolled descriptions in the one of the input descriptions and the output descriptions (col. 8, lines 14-16 "Synchronized scroll bars 92 ... maintain alignment during any review and modification by the user").

11. **Regarding Claim 2:** The rejection of claim 1 is incorporated; further Davis discloses the input and output descriptions include code descriptions expressed in programming languages (col. 5, lines 5-6 "translates between assembly language files").

12. **Regarding Claim 5:** The rejection of claim 1 is incorporated; further Davis discloses the input descriptions and the output descriptions are displayed in separate panes of a same window (col. 7, lines 51-54 "a graphical interface window 72 having a source window 74 [and] a translation window 76")

13. **Regarding Claim 6:** The rejection of claim 1 is incorporated; further Davis discloses the input descriptions and the output descriptions are displayed in separate windows (col. 7, lines 51-54 "a source window 74 [and] a translation window 76").

14. **Regarding Claim 7:** The rejection of claim 1 is incorporated; further Davis discloses:

providing a first scrolling tool for scrolling the input descriptions (Fig. 3; col. 8, lines 14-16 "Synchronized scroll bars 92 are provided for the windows 74"); and

providing a second scrolling tool for scrolling the output descriptions (Fig. 3; col. 8, lines 14-16 "Synchronized scroll bars 92 are provided for the windows ... 76").

15. **Regarding Claims 8 and 42:** The rejection of claims 7 and 41 is incorporated; further Davis discloses the first and second scrolling tool includes scrolling bars (Fig. 3; col. 8, lines 14-16 "Synchronized scroll bars 92").

16. **Regarding Claims 9 and 43:** The rejection of claims 7 and 42 is incorporated; further Davis discloses in response to controlling one of the first scrolling bar and the second scrolling bar, the other scrolling bar is automatically controlled in proportion to an controlled amount in said one of the first scrolling bar and the second scrolling bar (Fig. 3; col. 8, lines 14-16 "Synchronized scroll bars 92 ... maintain alignment during any review and modification by the user").

Art Unit: 2193

17. **Regarding Claim 10:** The rejection of claim 1 is incorporated; further Davis discloses, in response to scrolling one of the input descriptions and the output descriptions, displaying corresponding input descriptions and output descriptions adjacent to the scrolled descriptions on the display (col. 8, lines 14-16 “maintain alignment”).

18. **Regarding Claims 11 and 44:** Davis discloses, in an electronic device running a software tool that generates output descriptions in response to input descriptions, a method for tracing an output description generated from a corresponding input description (col. 6, lines 21-22 “The translator 46 translates the source elements ... into translation elements”), wherein the electronic device includes a display (Fig. 3), the method comprising:

displaying the input descriptions and the output descriptions together on the display (col. 8, lines 6-8 “The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88”);

providing a first focus in one of the input description and the output description (col. 8, lines 17-17 “In response to a user selection of an element”); and

in response to providing the first focus in the one of the input descriptions and the output descriptions, providing a second focus automatically in the other descriptions (col. 8, lines 17-17 “In response to a user selection of an element, the corresponding source and translation elements 84 are highlighted”).

Art Unit: 2193

19. **Regarding Claim 12:** The rejection of claim 11 is incorporated; further Davis discloses the first focus and the second focus are presented in a start position of the input description and the output description (col. 15, lines 47-54 "determining a source start element").

20. **Regarding Claim 13:** The rejection of claim 11 is incorporated; further Davis discloses the first focus and the second focus are presented on a same line on the display (col. 8, lines 14-16 "maintain alignment during any review and modification by the user").

21. **Regarding Claim 14:** The rejection of claim 11 is incorporated; further Davis discloses the first and second focuses are presented in a middle of the input description and the output description. (Fig. 3, Selection 94)

22. **Regarding Claims 15 and 45:** The rejection of claims 11 and 44 is incorporated; further Davis discloses the input description and the output description which the first focus and the second focus are presented to, respectively, make cross-references to each other (col. 14, lines 26-31 "source and corresponding translation instructions are associated with each other").

23. **Regarding Claims 16 and 46:** The rejection of claims 15 and 45 is incorporated; further Davis discloses the cross-references includes reference numbers to the input

description and the output description (col. 17, lines "The hash entries 478 include a source line number 486").

24. **Regarding Claim 17:** The rejection of claim 16 is incorporated; further Davis discloses the reference number to the input description is the same as the reference number to the output reference (col. 18, lines 23-27 "The display entries 490 ... use as the source line number 486 the line number of the source element 422").

25. **Regarding Claims 20 and 47:** Davis discloses an electronic device running a software tool that generates output descriptions in response to input descriptions, a method for tracing an output description generated from a corresponding input description (col. 6, lines 21-22 "The translator 46 translates the source elements ... into translation elements"), wherein the electronic device includes a display (Fig. 3), the method comprising:

displaying the input descriptions and the output descriptions together on the display (col. 8, lines 6-8 "The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88");

selecting a first segment in one of the input descriptions and the output descriptions (col. 8, lines 17-17 "In response to a user selection of an element"); and

in response to selecting a first segment in the one of the input descriptions and the output descriptions, selecting a second segment in the other descriptions automatically, wherein the second segment corresponds to the first segment (col. 8,

lines 17-17 "In response to a user selection of an element, the corresponding source and translation elements 84 are highlighted").

26. **Regarding Claim 21:** The rejection of claim 20 is incorporated; further Davis discloses the segment is highlighted (col. 8, lines 17-17 "elements 94 are highlighted").

27. **Regarding Claims 26 and 48:** The rejections of claims 20 and 47 is incorporated; further Davis discloses the input descriptions in the first segment and the corresponding output descriptions in the second segment make cross-references to each other (col. 14, lines 26-30 "source and corresponding translation instructions are associated with each other").

28. **Regarding Claim 27:** The rejection of claim 26 is incorporated; further Davis discloses the first segment includes a part of a line in the input descriptions and the part of the line in the first segment makes a different reference to a corresponding part of a line in the second segment (col. 4, lines 57-60 "the translation machine description 36 maps instructions and their associated operands from the source files 24 and 26 to the translation files 28 and 30").

29. **Regarding Claim 29:** The rejection of claim 26 is incorporated; further Davis discloses multiple references are made to a common line in the second segment, the common line being shared by more than one line in the second segment (col. 15, lines

1-4 "Since more than one translation element 426 may be generated from a single source element 422, a plurality of translation relationships 430 may refer to a single source element 422").

30. **Regarding Claim 31:** Davis discloses a system for translating input code to output code, the system comprising:

a code generator for receiving the input code and generating the output code that corresponds to the input code (col. 6, lines 21-22 "The translator 46 translates the source elements ... into translation elements");

a markup generator for generating input and output code markup files for displaying the input and output code (Fig. 15; col. 114, lines 34-41 "source file 414 is an internal representation of the source file 24 ... the translation file 418 is the intermediate translation file generated by transformer 48"); and

a display tool for displaying the input and output code on a display using the input and output code markup files (Fig. 3),

wherein the display tool displays the input code and corresponding output code together on the display so that users are able to trace the output code generated from corresponding input code and the input code from which corresponding output code is generated (col. 8, lines 6-8 "The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88").

31. **Regarding Claim 33:** The rejection of claim 31 is incorporated; further Davis discloses the markup files contain cross-references to input code and corresponding output code (col. 14, lines 26-31 “source and corresponding translation instructions are associated with each other”).

32. **Regarding Claim 34:** The rejection of claim 33 is incorporated; further Davis discloses the cross-references include line references to each line of the input code and corresponding output code (Fig. 15; col. 17, lines “The hash entries 478 include a source line number 486”).

33. **Regarding Claim 35:** The rejection of claim 33 is incorporated; further Davis discloses the cross-references include line references to each line of the output code and corresponding input code (Fig. 15; col. 17, lines “The hash entries 478 include a source line number 486”).

34. **Regarding Claim 36:** The rejection of claim 33 is incorporated; further Davis discloses the cross-references include references to each element of the input code and a corresponding output code element (col. 14, lines 26-31 “source and corresponding translation instructions are associated with each other”).

35. **Regarding Claim 37:** The rejection of claim 33 is incorporated; further Davis discloses the cross-references include references to each element of the output code

and a corresponding input code element (col. 14, lines 26-31 "source and corresponding translation instructions are associated with each other").

36. **Regarding Claim 38:** The rejection of claim 31 is incorporated; further Davis discloses the display tool provides a graphical user interface element in which the input code and the output code are displayed together (Fig. 3).

37. **Regarding Claim 39:** The rejection of claim 31 is incorporated; further Davis discloses the display tool displays the input output code on separate windows (col. 7, lines 51-54 "a source window 74 [and] a translation window 76").

38. **Regarding Claim 40:** The rejection of claim 31 is incorporated; further Davis discloses the input code and the output code are described in a textual format (Fig. 3).

Claim Rejections - 35 USC § 103

39. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

40. **Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 2003/0023755 to Harris et al. (Harris).**

41. **Regarding Claim 3:** The rejection of claim 2 is incorporated; further Davis does not disclose generating multiple output descriptions.

42. Harris teaches generating multiple output descriptions (par. [0007] “translated into a variety of different mobile device markup languages”).

43. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Davis' system to generate (Harris par. [0007]) and then display (Davis Fig. 3) multiple output descriptions so that “the user is immediately informed of the translation corresponding to any source element” (Davis, col. 8, lines 19-22) while developing a “mobile content framework ... [that] allows the distribution of uniform content to multiple types of requesting devices” (Harris par. [0007]).

44. **Regarding Claim 4:** The rejection of claim 3 is incorporated; further Harris teaches wherein each of the multiple output descriptions is expressed in a different programming language than other output descriptions (par. [0007] a variety of different mobile device markup languages”).

45. **Claims 18, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of “Towards Portable Source Code Representations Using XML” by Mamas et al. (Mamas).**

46. **Regarding Claims 18, 30 and 32:** The rejections of claims 15, 26 and 31 are incorporated; further Davis does not disclose his cross references are attached to the input description and the output description using XML.

47. Mamas teaches attaching meta-data to a source code description using XML (Extensible Markup Language) programming language (pg. 175. the par. bridging cols. 1 and 2 "XML-based program representation in which the corresponding DOM trees represent source code information").

48. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach Davis' cross references to the input and output descriptions (col. 14, lines 26-30 "source and corresponding translation instructions are associated with each other") using XML as taught by Mamas (pg. 175. the par. bridging cols. 1 and 2 "annotated source code in the form of a DOM") because "source code representation schemes must be compact, accessible by well defined application programming interfaces (APIs) and above all portable to different operation platforms and various CASE tools" (Mamas Abstract)

49. **Claims 19, 23, 28 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis).**

50. **Regarding Claim 19:** The rejection of claim 11 is incorporated; further Davis does not explicitly disclose displaying a first cursor in one of the descriptions, and in response providing a second cursor automatically in the other descriptions.

51. Those of ordinary skill in the art would have recognized that a cursor is equivalent to a selection with length 0. Thus it would at least have been obvious to one of ordinary skill in the art at the time of the invention to provide the functionality disclosed in relation to Davis' 'selections' for a cursor in order to assist in the disclosed editing. (col. 21, lines 35-37 "an intuitive display is provided by which the user is able to efficiently review, modify and save a translation").

52. **Regarding Claims 23, 28 and 49:** The rejection of claims 20, 23 and 48 are incorporated, respectively; further, Davis discloses each of a plurality of lines makes a different reference to corresponding lines in the second segment (Fig. 15 see e.g. S_1 and S_2)

53. Davis does not explicitly disclose the first segment includes a plurality of lines however, it would at least have been obvious to a person of ordinary skill in the art at the time of the invention to extend Davis' explicitly disclosed single line selection (Fig. 3, selection 94) to include multiple lines (e.g. Fig. 16 partition 452) so that "corresponding groups of source and translation elements 452 and 456 can be [highlighted and] aligned for display to the user" (col. 15, lines 35-37).

54. **Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of Official Notice.**

55. **Regarding Claim 22:** The rejection of claim 20 is incorporated; further Davis does not explicitly disclose that the background of the selected segment (Fig. 3, 94) is colored.

56. However, Official notice is taken that those of ordinary skill in the art would have recognized a colored background as an obvious method of providing the highlighting discussed, for example, in col. 8, lines 17-18 and shown in Fig. 3.

57. **Claims 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 5,797,011 to Kroll et al. (Kroll).**

58. **Regarding Claim 24:** The rejection of claim 23 is incorporated; further Davis does not disclose the plurality of lines is highlighted in different colors.

59. Kroll discloses using color to indicate distinctions between translation elements (col. 6, line 67-col. 7, line 4 "displayed in a manner, such as using different colors, that indicates that the related target part is not to be translated with the target panel")

Art Unit: 2193

60. It would have been obvious to one of ordinary skill in the art at the time the invention was made to highlight each element of plurality of Davis's lines (e.g. Fig. 16, S₁₋₃ of partition 452) in a different color as taught by Kroll (col. 6, line 67-col. 7, line 4 "displayed in a manner, such as using different colors, ... indicates") to accurately represent the mapping disclosed by Davis (see e.g. Fig. 15, S₁₋₃ and T₁₋₃).

61. **Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 5,507,030 to Sites (Sites).**

62. **Regarding Claim 25:** The rejection of claim 20 is incorporated; further Davis does not disclose using a connection line to indicate that the coupled portions in the first and second segments are corresponding to each other.

63. Sites teaches using a connection line to indicate an association between code elements (Fig. 16, 214).

64. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the connection line taught by Guy (Fig. 16, 214) to indicate the association between Davis' input and output descriptions in so that "translation element 88 may be immediately identified with its source element 86". (Davis col. 8, lines 19-22).

Conclusion

65. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Mitchell
6/19/07



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